The
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Number 8

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby annually appropriated, out of money in the Treasury not otherwise appropriated, the sums provided in sections two, three, and four of this Act, to be paid to the respective States for the purpose of cooperating with the States in paying the salaries of teachers, supervisors, and directors of agricultural subjects, and in the preparation of teachers of agricultural subjects, and the sum provided for in section seven for the use of the Federal Board for Vocational Education for the administration of this Act and for the purpose of making studies, investigations, and reports to aid in the organization and conduct of vocational education, which sums shall be expended as hereinafter provided.

(20 U.S.C. 11) Enacted Feb. 23, 1917, C. 114, P.L. 347, 64th Cong. sec. 1, 39 Stat. 929.

THEME: Smith-Hughes at 70

THE
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Articles and photographs should be submitted to the Editor, Regional Editors, or Special Editors. Items to be considered for publication should be submitted at least 90 days prior to the date of issue intended for the article or photograph. All submissions will be acknowledged by the Editor. No items are returned unless accompanied by a written request. Articles should be typed, double-spaced, and include information about the author(s). Two copies of articles should be submitted. A recent photograph should accompany an article unless one is on file with the Editor.

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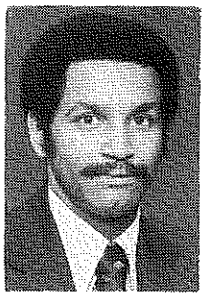
Politically Speaking of the Smith-Hughes Act



By Blannie E. Bowen, Editor

(Dr. Bowen is an Associate Professor in the Department of Agricultural Education at The Ohio State University.)

This issue explores a major piece of legislation commonly viewed as the starting point for vocational-technical education in agriculture. Since the Smith-Hughes Act celebrates its 70th anniversary this month, it is appropriate to direct attention to the Act and its sponsors who poured the foundation for the vocational education delivery system now in U.S. secondary and post-secondary institutions. Authors writing in this issue bring to light interesting political realities characteristic of a nation so heavily immersed in a cumbersome yet effective system of government.

Three major points are brought forth in this issue: (1) There was an effective system of agricultural education in the U.S. BEFORE the Smith-Hughes Act, (2) Senator Hoke Smith (D-GA) was an extremely shrewd politician in addition to being a strong supporter of vocational education, and (3) President Woodrow Wilson supported federal vocational education legislation primarily to put in place a well-oiled machine to enable the U.S. to effectively compete in World War I and not to provide a trained work force.

Life Before Smith-Hughes

Many in agricultural education would have you believe that 1917 style spontaneous generation gave rise to secondary instructional programs in agricultural education. This simply is not true. Gary Moore clearly explains in this issue that agricultural education was alive and well far in advance of 1917. Rather than being both sire and dam, the Smith-Hughes Act merely gave a federal presence and monetary support for instruction in agriculture. Perhaps the biggest contribution Smith-Hughes made was in the notion that agricultural education should have a vocational orientation. Further, by providing federal dollars, vocational education became a national priority item.

Hoke Smith, Master Politician

Bill Camp succinctly details in this issue how the infamous Senator Hoke Smith was a masterful politician who carefully plied his trade. Camp portrays Smith as one who could survey a situation, garner the needed political support, and then move only when it was strategically possible to achieve victory. For example, history suggests that Charles Prosser, a renowned educator but neophyte politician, was the primary brain-thrust and driving force behind the vocational education legislation. However, Prosser and Carroll S. Page, a Republican Senator from Vermont and an ardent supporter of vocational education, tried unsuccessfully for over six years to effect federal vocational education legislation. Smith, on the other hand, was able to read the pulse of Congress and being a masterful politician, he knew when it was politically expedient to act.

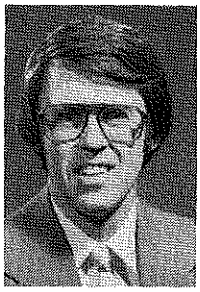
Camp explains that Smith had the political wisdom to know legislation to create an Extension Service and fund vocational education could not be maneuvered through Congress the same year. Smith correctly sensed more support for the Extension bill than for vocational education. Consequently, he derailed Page's vocational education bill so his Extension bill would fly (Smith-Lever Act of 1914). Sensing that Page was a sincere yet ineffective legislator, Smith literally took over Page's vocational education bill and steered it through Congress (Smith-Hughes Act of 1917). Smith clearly was not the innovator, thinker, or originator of this major piece of legislation. He should best be described as opportunistic, crafty, and a shrewd politician. One might easily question his procedures or processes, but certainly not his effectiveness as a politician.

Preparation for World War I

When President Woodrow Wilson affixed his signature to the Smith-Hughes Act on February 23, 1917, many erroneously assumed and some still falsely assume that his chief motive was to provide the country with a highly trained work force. Quite the opposite is true in that under the guise of vocational training, President Wilson was actually preparing the country for World War I. No matter what his hidden agenda was, few can now question the wisdom of his decision. If America had been devastated by war and thus, devoid of the freedoms on which this country was built, there would have been little use for sound vocational education programs. History proves President Wilson's logic was correct since basic freedoms are intact and there is also a strong delivery system for vocational-technical education in agriculture and a host of other areas.

John Hillison, the theme editor for this issue, selected knowledgeable professionals to address the many implications of this hallmark legislation. Their writings clearly show that agricultural education has been and will continue to be influenced significantly by a complex yet effective system of government. As such, professionals in agricultural education must not only be sound educators but also politically astute and active participants in an increasingly complex political process.

The Smith-Hughes Act at 70



By John Hillison, Theme Editor

(Dr. Hillison is an Associate Professor of Agricultural Education at Virginia Polytechnic Institute, Blacksburg, Virginia 24061.)

When listing milestones in their field, few agricultural educators would leave out passage of the Smith-Hughes Act. Certainly a large number would have it at the very top of their list. This Act was truly innovative and provided a sound foundation for agricultural education for the next seven decades.

What is so remarkable about this Act signed into law by President Woodrow Wilson on February 23, 1917? In addition to the obvious point of initiating Federal spending for vocational education including the area of agricultural education, there were several significant accomplishments made by the Smith-Hughes Act.

One of these accomplishments was the establishment of a truly remarkable coalition which supported its passage. Seldom do labor, industrial, and agricultural interests, the U.S. Chamber of Commerce, two political parties (Democratic Party and Progressive Party), and the National Education Association agree on anything. In the early 1900s, all of these groups agreed there should be Federal support for vocational education. They all supported the Smith-Hughes Act. Related to the remarkable coalition established was the legislative maneuverings necessary to insure its passage. Certainly a degree of pride swallowing had to be achieved by some prominent politicians before the Act could be passed. There were also the frequently resurrected issues on Federal aid to education and states rights which had to be addressed.

The Smith-Hughes Act legitimized a trend occurring in 1917. It recognized an increasing interest in the study of agriculture. The Act picked up that trend and gave it a new momentum. While not starting the study of agriculture at the secondary level per se, it certainly gave such study a new vigor and increased further the interest in agriculture as a secondary school subject.

Teacher education was a major point of emphasis in the Smith-Hughes Act. Such an emphasis encouraged the full professional development of agriculture teachers. That development gave the agriculture teacher an early respect and made such teachers qualified for many positions of leadership in the education field.

In a specialty field where philosophical beliefs have typically been defined by Federal legislation, it was most important that the first Federal act put agricultural education on a sound philosophical footing. The Smith-Hughes Act did just that. And excellent example is the Act's requirement of practical application of the theory taught in the classroom - what we commonly call the supervised occupational experience program. A great deal of the philosophy displayed in the Smith-Hughes Act is alive and well today.

All of these significant accomplishments and more are covered in the theme articles published in this issue of The Agricultural Education Magazine. It is very appropriate for the field of agricultural education to recognize the Smith-Hughes Act in 1987 during the anniversary month of its passage. We have benefited not only with its philosophy and professionally trained teachers, but also financially. One of the rare aspects of the Act was continuing appropriations. We still receive funds from the Smith-Hughes Act. In the current fiscal year such funds amount to over seven million dollars.

All of us in agricultural education need to wish a happy anniversary to the Smith-Hughes Act. It has aged well.

About the Cover

The Smith-Hughes Act included several provisions, including many that have since been altered by subsequent legislation. One major change is that funds are not restricted to subject matter areas. (Cover courtesy of John Hillison. Graphic design produced by Cathy Gorman of the VPI & SU Learning Resources Center.)

Coming in March . . .

Agriculture in a Global Perspective

Smith, Hughes, Page, and Prosser

By William G. Camp

(Dr. Camp is an Associate Professor of Agricultural Education at Virginia Polytechnic Institute, Blacksburg, Virginia 24061.)

In almost any course in agricultural education or vocational education, one thing that is likely to be mentioned is the Smith-Hughes Act of 1917. I suppose that in nearly every graduate course in vocational education I have ever taken or taught, the 1917 Act and its impact on the present form of the profession have been discussed. Vocational educators often attribute the very beginnings of our profession in the U.S. to this single piece of legislation.

If you read all of the theme articles in this issue, you will find that was not the case, and that vocational and agricultural education were already accepted parts of the American educational scene well before 1917, and, in fact, were growing steadily more popular. The Act, however, did establish vocational education as a federal program and provide both the form and much of the substance of vocational education as we have known it over the past 70 years. Indeed, there is general agreement that the passage of the Smith-Hughes Act of 1917 is the most important single event in the history of vocational and agricultural education in America (Camp & Crunkilton, 1985).

We also often speak of Smith and Hughes as though they originated vocational education; whereas, that is certainly not true. This is not to minimize the critical roles played by either of these two men in the passage of this benchmark legislation. However, this article will point out that there are four men whose efforts and influence were largely responsible for the formulation and passage of the Smith-Hughes Act of 1917. And, of those four, Smith and Hughes probably played lesser roles in the action than did the other two.

The Players

Prosser

Charles Prosser was the only professional educator among the four principal players. As a prominent educational leader with experience in industrial education program development, Prosser was hired in 1912 as the first Executive Secretary of the National Society for the Promotion of Industrial Education (NSPIE). The NSPIE had been formed in 1906 for the expressed purpose of securing federal support for industrial education. In that position, Prosser's sole function was to work toward what would eventually become the Smith-Hughes Act of 1917 (Wirth, 1972; Barlow, 1967; Barlow, 1976).

One of Prosser's chief early allies was Senator Carroll Page (R, Vermont), who would propose and fight unsuccessfully for several bills to provide federal support for vocational education over the next few years. Prosser was most influential in the wording of Page's bills and in planning the efforts at their passage.

Because of his leadership in the move toward federal legislation, and as a result of great political pressure from the NSPIE, Prosser was named to the Commission on National Aid to Vocational Education in 1914. Since he had written much of the Page bills, Prosser was in a particularly strong position to influence the Commission's deliberations. It is generally accepted that he wrote the portion of the Commission's Report that later became the Smith-Hughes Bill and later the Act of 1917 (Venn, 1964).

Page

Senator Carroll S. Page, a Republican senator from Vermont, was a disciple of the late Senator Justin Morrill, also of Vermont, whose Morrill Acts of 1862 and 1890 had been so influential in the development of land grant colleges in the United States. It was his desire to leave a legacy of similar accomplishment credited to his name. In 1911, Senator Page assumed responsibility for promoting legislation for vocational education. He immediately formed an alliance with Charles Prosser and began a six-year odyssey of frustrations in a futile attempt to secure passage of vocational legislation under his sponsorship.

In 1916 when the Senate was preparing to vote on the Smith-Hughes Bill, Senator Hoke Smith rose to pay tribute to Senator Page's work and leadership in the formulation of the legislation. Smith specifically indicated that, but for the Democratic majority resulting from the 1913 election, Page would have been in charge of the bill. By direct implication, he thus conceded that the bill would have been the Page Bill.

Senator Page appears to have been a good-hearted, but rather ineffectual parliamentarian who was outmaneuvered repeatedly by the wily Hoke Smith. On the other hand, one wonders whether Page could have ever succeeded in securing the passage of the bill without Smith's support.

Smith

Hoke Smith was governor of Georgia during the early part of the century and was a supporter of vocational education as well as a strong advocate of rural interests in general and agriculture in particular. In 1908, while governor, he spoke on both subjects to a meeting of the National Society for the Promotion of Industrial Education (NSPIE), expressing strong support for vocational education. Later, as a Democratic senator from Georgia, he proposed legislation to establish the Cooperative Extension

(Continued on page 6)

Smith, Hughes, Page, and Prosser

(Continued from page 5)

Service (the Smith-Lever Act of 1914). As a result of the election in 1913, of a slight Democratic majority in the Senate, he was named chairman of the Senate Committee on Education and Labor. He also prepared the legislation creating a Commission on National Aid to Vocational Education in 1914. As a result of his involvement in vocational education, his chairmanship of the relevant Senate committee, and his role in the establishment of the Commission, Senator Smith was appointed chairman of the commission, putting him in a pivotal position for formulating the later legislation. On December 7, 1915, he introduced Senate Bill 703 (later to become known as the Smith-Hughes Bill) and it was referred to the Senate Committee on Education and Labor. Senator Smith was a very powerful and influential member of the Senate, being generally regarded as a skillful parliamentarian and political strategist.

Hughes

Representative Dudley M. Hughes was a Democratic Congressman, also from Georgia, and Chairman of the House Committee on Education during this time frame. Hughes was well known in his home state for his support of agricultural education both at the college and secondary levels. His efforts in 1905 were instrumental in the expansion of the use of agricultural clubs as an instructional tool in agricultural education (Dudley M. Hughes Vocational School, 1955.)

Because of his influential position on the House committee and his long-standing support for industrial education, he was also appointed by President Wilson to the Commission on National Aid to Vocational Education in 1914. He introduced House Bill 11250 on February 10, 1916, as the Smith-Hughes Bill. Representative Hughes was also known as a skilled parliamentarian and politician (Barlow, 1976).

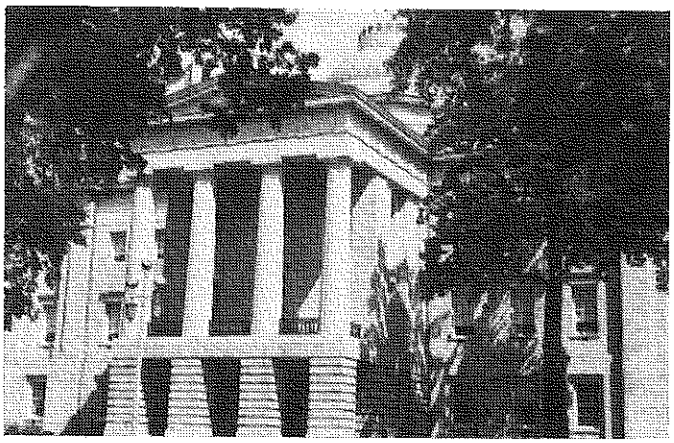
The Maneuvering

Between 1900 and 1917, at least 38 Senate and House bills were offered pertaining to vocational education (Hawkins, Prosser & Wright, 1966). Two of those were the Dolliver Bill (S.4675), introduced in 1908, then reintroduced as the Davis Bill (H.R. 20374) in 1910. When Senator Dolliver (Iowa) died in 1910, the newly elected Senator Page reintroduced the Dolliver Bill in 1911 as the Page Bill (S.3). Representative Wilson (Pennsylvania) submitted the companion bill in the house (Hawkins, et al, 1966). During the succeeding months, a number of serious flaws surfaced in the bill and Senator Page introduced numerous changes. Some of the changes appeared to be poorly thought out. As a result, it began to become apparent that, although there was widespread support for vocational education in the country and in Congress, the Page-Wilson Bill might not be successful. Even the NSPIE and the United States Commissioner of Education could not support the bill in its original form (Bennett, 1937; Barlow, 1967; Barlow, 1976).

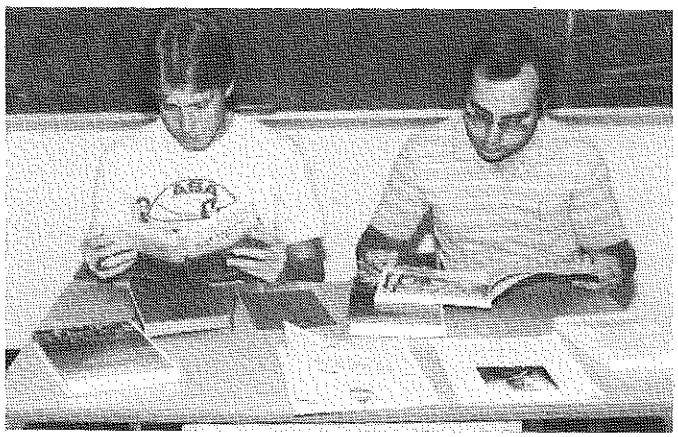
In 1912, Senator Smith introduced the agricultural extension bill in the Senate and Representative Lever (South Carolina) introduced it in the House. During the ensuing deliberations, it became clear to Smith that the passage of both bills in the same session of Congress was unlikely. Since his first loyalty was to the agricultural extension bill, the Senator from Georgia succeeded in undermining the Page-Wilson Bill through a series of brilliant parliamentary maneuvers. At one point, he managed to get the provisions of the Page-Wilson Bill incorporated into the Smith-Lever Bill, then, just as quickly dropped it from his extension bill. This move, coupled with the rather careless steps by Page, resulted in the Smith-Lever Bill's becoming the more passable of the two (Barlow 1976; Bennett, 1937).

Smith then proposed a compromise to Page and Prosser. He suggested that they support the Smith-Lever Bill, in exchange for which he would propose a Commission on National Aid for Vocational Education, and his subsequent support for a vocational education bill in the next Congress. The deal was struck, and the Smith-Lever Act of 1914 established the Cooperative Extension Service (Venn, 1964). The Commission was established in 1914, and the Democratic President Wilson appointed Senator Smith to chair it, with Page, Hughes, and Prosser among its members (Barlow, 1976).

Prosser largely wrote the part of the report that was later enacted. It was basically a revision of the Page-Wilson Bill, with some of the problems that had been included in the earlier document worked out. Because Senator Smith was chairman of the Commission, his name was attached to the



North Carolina legislators adopted the provisions of the Smith-Hughes Act in 1917. All 48 states adopted the provision by June 30, 1918. (Photo compliments of Barbara Malpiedi.)



Graduate students Dale Cochran and Danny Blake (l to r) research the Smith-Hughes Act and its implications for vocational education. (Photo compliments of Barbara Malpiedi.)

report. Because it was "his report", he introduced the recommended legislation under the unofficial title of the Smith Bill in the Senate.

As chairman of the relevant committee in the house, Representative Hughes submitted the House bill. Thus, it became the Hughes Bill instead of the Wilson Bill in the House of Representatives.

Since Senator Page had been such a vocal advocate of the legislation for so long, he supported the bill regardless of the fact that Smith was literally simply resubmitting Page's work with modifications. Thus, according to Barlow (1976), Hoke Smith prevented the passage of federal vocational education legislation in 1914. He managed, though, to secure passage of the agricultural extension bill. Then he took over Page's work and put his own name on the bill.

At the same time, we must recognize that Hoke Smith and Dudley Hughes were long-time supporters of vocational education (Bennett, 1937; Hawkins, et al, 1951; Hawkins, et al, 1966). They had both worked for passage of vocational education legislation before the appointment of the Commission in 1914. Further, a close reading of Barlow (1976) leads me to conclude that Senator Page might well have been unable to successfully maneuver the legislation through Congress. Although well-intentioned he appears to have been rather naive and unskilled as a legislator.

Conclusion

There were many education, industrial, political, and other leaders advocating federal vocational legislation during the first 17 years of the 20th century. While the concept was generally supported, the specific details were more heartily debated. Four of the champions of such legislation were Hoke Smith, Charles Prosser, Dudley Hughes, and Carroll Page. Page, a senator from Vermont, was an early, albeit, somewhat ineffective legislative leader in the fight. He relied heavily on the advice and assistance of Prosser in formulating his proposed legislation and political moves regarding the bill.

Prosser was a professional educator who was hired to act as a full time lobbiest by the National Society for the Promotion of Industrial Education and to lead the fight for federal vocational legislation. He relied heavily on Page for access to the legislative process until 1915 when it became clear that Hoke Smith would be a more effective ally.

Smith and Hughes, Senator and Representative from Georgia, respectively, were the architects of the passage of the Smith-Hughes Act of 1917. The contributions of these two men in formulating the legislation may be questioned, but their role in securing its passage cannot.

It is unfortunate that history should have so nearly forgotten the roles of Dr. Charles Prosser, and to a greater extent, Senator Carroll Page in shaping of federal policy and support toward vocational education since 1917. Regardless, the legacy of these four great leaders has served America and our society well.

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BOOK REVIEW

The Retail Florist Business, by Peter B. Pfahl and P. Blair Pfahl, Jr. Danville, Illinois: The Interstate Printers & Publishers, Inc., 1983, Fourth Edition, 498 pp.

The word Business is the last word in the title and that word is The emphasis of the contents. The contents will engage manager/owners of florist businesses; they will also encourage and support advanced post-secondary and college students who are seriously considering the florist business.

The contents range broadly over subjects such as these: 1) management decisions from store site selection through marketing strategies, 2) basics of accounting through wire-service merchandising, and 3) design techniques and elements through preferences for plants, personnel and equipment. The scope and detail of this book make this the reference of choice if the florist is to choose only one book. And, the contents are written primarily from the perspective of management, not employees.

Detail and scope make The Retail Florist Business an easy choice of specialized courses and programs aimed to build confidence and know-how among serious students considering building a florist business. Additionally, vocational agriculture instructors and faculty of post-secondary and college programs of horticulture will find this book to be an excellent reference book for industry data, technical information about materials, methods and techniques used in the florist industry.

In painting the portrait of the modern florist, the authors clearly see that business as one that is primarily based upon "merchandising" as opposed to "growing and selling flowers." To quote the authors,

"Retail florists are merchants, fundamentally occupied in buying and selling. They sell services as well as merchandise, and the words 'sentiment,' 'service,' 'emotion,' and 'artistry' are all important in this specialized business."

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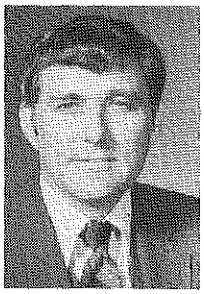
The Status of Agricultural Education Prior to the Smith-Hughes Act



By Gary E. Moore

(Dr. Moore is a Professor of Agricultural, Extension and International Education at Louisian State University, Baton Rouge, Louisiana 70803.)

Barbara Mandrell sings a song titled "I Was Country When Country Wasn't Cool." Back in 1917 many agricultural teachers could have sung a modified version of that song, "I Was An Agriculture Teacher Before Smith-Hughes." Many people believe the teaching of agriculture was **started** with the passage of the Smith-Hughes Act of 1917. The fact is, the teaching of agriculture was well established before the passage of the Smith-Hughes Act. In the 1914-15 school year, a couple of years before the passage of the Smith-Hughes Act, agriculture was taught in 4,390 secondary schools to 85,573 secondary students (U.S. Commissioner of Education, 1916). This article describes the development of agricultural education before the passage of the Smith-Hughes Act.

When Was Agriculture First Taught?

When the Pilgrims landed at Plymouth Rock in 1620, they knew little about the Massachusetts soil or crops. Squanto, the Indian, knew both and came to the aid of the Pilgrims by teaching them how to plant corn and fertilize the crop. He told the Pilgrims, "In these old grounds corne without fish" would "come to nothing." He also taught them when, where, and how to get the fish (Stimson and Lathrop, 1942, p. 178). One could claim that this was the beginning of the teaching of agriculture in America.

To identify when agriculture was first taught in a more systematic, scientific fashion, one would look to Georgia. Before sailing for the new world, James Ogelthorpe planned a definite system of agricultural education for the colonists. The plan provided for:

1. Using the agricultural practices of the Indians who inhabited Georgia.
2. Establishing an experimental farm for trying out new crops and discovering effective cultural methods.
3. Providing special instructors and training in agriculture for all the colonists.

The plan was followed. Tomochichi, leader of the Yamacraw tribe, taught the colonists how to grow maize, beans, melons, and several types of fruit. A 10 acre experimental garden was established in Savannah. The trustees of the Georgia colony in 1732 selected three Italians to settle in Georgia and instruct the people in the production of raw silk. These men were the first to be **hired** as teachers of agriculture. They arrived in Georgia in 1733 and proceeded to instruct the people in the production of silk, primarily through an apprentice system. They received $125 per year and were given 450 acres of land at the end of four years of service. The three Italian teachers were followed by men hired to teach indigo production and grape culture (Wheeler, 1948).

The first agriculture to be taught in a **school** setting occurred in 1734 in Georgia. The Salzburgers established an orphan's school near Savannah where agriculture was taught. This was followed by another orphan's school in 1738 at Savannah that ". . . taught pupils to work so as to be able to earn their own living from farming" (Wheeler, 1948, p. 12). Most of the agriculture teaching in schools during the remainder of the 1700s and early 1800s was primarily in schools for orphans or in missionary schools.

During the latter part of the 1700s, agricultural societies were established in many states, the first two being in Philadelphia and South Carolina in 1785. The societies promoted the study of agriculture through a variety of activities such as discussions, experiments and publications (Ellsworth, 1968).

In the early part of the 1800s, the teaching of agriculture emerged in a number of private schools. The Gardiner Lyceum, a school devoted exclusively to agriculture, was established in Maine in 1821. Agriculture was also taught at the Rensellaer School in New York which was established in 1824 (True, 1928).

Agricultural instruction in private schools and through agricultural societies flourished during the first half of the 19th century but declined during the War Between the States.

Federal Involvement

The Morrill Act of 1862 provided for the establishment of one college in each state where agriculture, along with other subjects, was to be taught. While the long term effects of this legislation were beneficial to agricultural education, the short term effect was not. Hamlin (1949, p. 418) observed that, "Those interested in agricultural education centered their attention for many years before and after 1862 upon getting state institutions for agricultural education established and functioning, and attention to agricultural education in the secondary schools languished." After the passage of the Morrill Act many people were of the opinion that there was no need for instruction in agriculture in the public schools because any student who

wanted to learn agriculture would go to the land grant college.

Not much interest was shown in agricultural education at the secondary level until after the passage of the Hatch Act in 1887. The purpose of the Hatch Act was ". . . to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture **and** to promote scientific investigation and experiment respecting the principles and application of agricultural science." Most people think the Hatch Act only established agricultural experiment stations; that is partially correct. The agricultural education aspect of the Act, the diffusion of useful and practical information, was taken seriously by the early agricultural leaders.

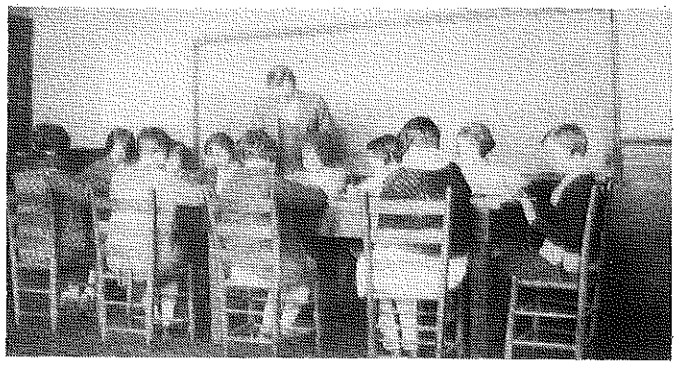
During the 1890s the Office of Experiment Stations in the U.S. Department of Agriculture started an active campaign in different parts of the country to promote agriculture in the public schools. The Director of the Office of Experiment Stations, A.C. True, advocated the establishment of courses in agriculture in schools near the farmer's home. In the **Yearbook of Agriculture** for 1901 (p. 135), True urged the farmers to ". . . take an active part in this movement (educational reform), impress upon the schoolmen their (the farmers) real education needs, and help to adjust the public schools to the advancing requirements of agriculture."

In 1901, Dick Crosby was added to the staff of the Office of Experiment Stations as a special assistant to the director in work related to agricultural education. For the next decade Crosby, True, and the Office of Experiment Stations were the banner carriers for the agricultural education movement. They were instrumental in getting the NEA to support agricultural education. Reports on the status of agricultural education were published, bulletins designed to help teachers with subject matter were developed, lantern slide series were prepared, presentations were made, and a model curriculum was developed. Nearly every issue of the USDA **Yearbook of Agriculture** from 1901 to 1913 contained an article by either Crosby or True describing the current work in agricultural education and advocating even more effort. Farmers were urged to ally themselves with their counterparts in the cities who were promoting industrial education.

Agricultural Education in Special Schools

The efforts of True and Crosby, the farmers, and others interested in agricultural education bore fruit. In the 30 year period between 1887 and 1917, the growth of agricultural education could be described as phenomenal.

In some states special agricultural schools of less than college grade were established on the campus of land grant colleges. In 1888, after widespread dissatisfaction with the teaching of agriculture at the University of Minnesota, a school of less than college grade was established on the grounds of the agricultural experiment station. The school was very successful. This type of school was soon found in other states. In 1915-1916, the Bureau of Education listed 24 land grant institutions as maintaining secondary schools or secondary courses of agriculture covering from one to four years.



It was popular in 1927 for the vocational agriculture teacher and the home economics teacher to exchange classes as a means of self-renewal. C.R. Lee, a Mississippi State University graduate, is shown instructing Leacy Newell's home economics class. Cayce Scarborough, a leader in the profession and former editor of this publication, was one of Lee's students in 1927. (Photo courtesy of Cayce Scarborough.)

The secondary agricultural schools associated with land grant colleges were well received but did not meet the educational needs of the population since there was generally only one secondary agricultural school in each state. Because of this, special agricultural schools were established in some states in each congressional district (Alabama [1889], Georgia [1907], Virginia [1908]); state supreme court judicial districts (Oklahoma [1908]); or in some type of county or district scheme (Wisconsin [1901, 1909], Michigan [1907], Mississippi [1908], Arkansas [1909], North Dakota [1911], and Massachusetts [1913]). These schools often had dormitories to board the students and operate school farms.

Around the turn of the century, agriculture was also taught in normal schools. Normal schools were institutions designed to train teachers (normal is derived from a French word meaning model). Normal schools were generally state, county, or city supported. The curriculum was two years in length and consisted of a review of the subjects taught in common schools plus some courses in teaching. The students typically were common school graduates (8th grade) with some having a high school education. To prepare the teachers to teach agriculture, courses in agriculture were implemented in a number of these schools. Agriculture was being taught in 124 public normal schools by 1915-16.

Agricultural Education in Public Schools

The greatest growth in the teaching of agriculture prior to the passage of the Smith-Hughes Act occurred in the public schools of the various states. The forerunner of agricultural education was nature study and school gardens, primarily in the elementary schools. A leader in the nature study movement was Liberty Hyde Bailey of Cornell, who in 1896, prepared a bulletin titled **How a Squash Plant Gets Out of the Soil.** A number of bulletins on various aspects of nature study followed during the late 1890s and early 1900s (True, 1928). Elementary school teachers made extensive use of the nature study bulletins and often formed junior naturalist clubs. In most of the nature study materials there was a distinct agricultural flavor.

Along with nature study, the school gardening movement provided impetus for the study of agriculture. Begin-

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The Status of Agricultural Education Prior to the Smith-Hughes Act

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ning around 1900 school gardens were planted to both beautify the school grounds and to be used for teaching purposes at the elementary level. By 1903 the school garden movement was well established in 21 states (Crosby, 1903).

The nature study movement and the school garden movement evolved into the teaching of agriculture in the elementary schools. However, because of the inadequate knowledge of agriculture on the part of most elementary school teachers and the crowded elementary school curriculum, it was realized that the teaching of agriculture should be in the high school.

The growth of agricultural education in high schools started in about 1906. Individual states started passing laws requiring the teaching of agriculture in the high schools. Federal legislation was passed in 1907 (Nelson Amendment) that allowed land grant colleges to use federal funds ". . . for providing courses for the special preparation of instructors for teaching the elements of agriculture . . ." Starting in about 1908 the number of high schools teaching agriculture started rising rapidly. Between 1908 and 1910 the number of schools doubled, between 1910 and 1912 the number of schools tripled. In 1912, Crosby (p. 471) wrote, "More than 2,000 public high schools in the United States are now teaching agriculture; 16 years ago there was not one." In 1912 agriculture was being taught in 335 high school in Ohio, 191 schools in Nebraska, 167 schools in Missouri, 132 schools in Kansas, 118 schools in Wisconsin, and 85 schools in Pennsylvania (Crosby, 1913). The teaching of agriculture in the high schools continued to grow prior to the passage of the Smith-Hughes Act. The passage of the Smith-Hughes Act in 1917 could be regarded as more of an "AMEN" to the teaching of agriculture than the start of it.

Prior to 1917 agriculture was being taught in every state of the Union as many of the states had passed laws providing for the teaching of agriculture in public schools (Ekstrom, 1969). However, it should be noted, that the agriculture being taught was more general than vocational and there was great variation in the quality of the agriculture programs from state to state. The Smith-Hughes Act established strict guidelines for the conduct of agricultural programs thus improving the quality, provided federal funds so more programs could be established, and made the programs more vocational. Although, the Smith-Hughes Act provided for uniformity and the expansion of agriculture, the foundations of agricultural education had already been laid by a group of hard-working people prior to the passage of the Smith-Hughes Act.

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THEME

Agricultural Education After Smith-Hughes: A Decade of Growth and Definition

By Barbara Malpiedi

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President Woodrow Wilson signed into law the National Vocational Education (Smith-Hughes) Act of 1917 on February 23, 1917. On February 24, 1917 was agricultural education different? In some respects, no, agricultural education was not different. According to the U.S. Bureau of Education, 2,981 high schools reported having pupils in agriculture courses in 1916. However, only 2,166 of the schools had serious agricultural instruction. Approximately 541 of the 2,166 high schools offered agricultural education that was vocational in nature (Second Annual Report of the Board for Vocational Education, 1918, p. 37). Passage of the Smith-Hughes Act did not introduce "hands on" learning. Some students, like those enrolled at the Smith-Hughes Agricultural School at Northhampton, Massachusetts, were gaining valuable agricultural experiences via the project method before The Smith-Hughes Act was enacted (Moore, 1985).

Vocational agricultural education programs on February 24, 1917 were different from agriculture courses in many aspects. Vocational agricultural education programs "of less than college grade" were now defined as systematic programs of instruction with the controlling purpose of fitting individuals for useful employment. The programs were under public supervision and control and were eligible for federal funds, given numerous compliance regulations. The very idea of Federal Government "stipulations" in education as well as the notion of a dual system of education administration sent chills down the spines of several notable educators at the time. An examination of agricultural education after the Smith-Hughes Act should help clarify the roles of the Federal Government, State Government, and local communities as they contributed to the promotion of agricultural education.

Promotion of Vocational Agricultural Education

The Smith-Hughes Act was, "An act to provide for the promotion of vocational education; to provide for cooperation with the States in the promotion of such education in agriculture and the trades and industries; . . ." (Federal Board for Vocational Education, 1917, p. 49). According to the Federal Government in 1919, vocational education was essential to the national welfare and it was a function of the National Government to stimulate the States to undertake a new and needed form of service. A Federal Board for Vocational Education, regional supervisors, a designated State board, State supervisors, teacher trainers, and local teachers began a cooperative effort to deliver vocational education.

At the close of the 1918-1919 fiscal year, every State in the Union had accepted all the provisions of the Federal Vocational Education Act through formal State legislation. State boards for vocational education reported that 609 schools had qualified for funding under the Smith-Hughes law in 1918. That was only 68 more schools than reported in 1917. Eighty-six percent of the vocational agriculture programs were east of the Mississippi River. It appeared that the promotion of vocational education was a slow process.

To qualify as "Smith-Hughes" schools, the following were necessary; vocational agriculture instruction and supervised practice were offered by the school and taught by a certified vocational agriculture teacher to students 14 years of age or older, the State designated a state board to administer the act, a network of supervisors and teacher-trainers was formalized, and a yearly plan and report was submitted and approved by the Federal Board for Vocational Education. The logistics of the sytem as well as the paper work involved surely slowed the promotion process. However, by the year ending June 30, 1921, federally aided vocational agriculture schools totalled 1,721. The schools served 42,709 students, nearly three times as many as in 1918. While the literature described "boys receiving farm instruction", it was interesting to note that by 1921 slightly over six percent of the students enrolled in vocational agriculture were females (Federal Board for Vocational Education, 1921, p. 241). Vocational agriculture education as defined by the Smith-Hughes Act was growing in terms of students and approved schools.

Teachers and Programs

The Smith-Hughes Act was "an Act . . . to provide for cooperation with the States in the preparation of teachers of vocational subjects; . . ." (Federal Board for Vocational Education, 1917, p. 49). Another article in this issue focuses on training teachers but a few comments are in order. Federal dollars, $548,000 in 1917 increased to $3,027,000 in 1926-27, were matched by the States to pay the salaries of agricultural teachers, supervisors, and directors

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or agricultural subjects (Federal Board for Vocational Education, 1918). This created some confusion since federal dollars were granted to a state by the proportion of the rural population a state bore in relation to the rural population of the nation. States with large urban areas feared that the teachers in these "urban" schools were ineligible for funds. The 1919 Federal Board granted funding to these schools as long as the State verified that vocational agricultural education was taught.

Teachers taught agricultural education in all-day, short-unit, part-time, and evening school programs. Agriculture departments were established in either high schools or rural vocational schools. Enrollment was low due to World War I, a depressed agriculture economy, and in 1919 a surge of influenza cleared students from the schools. The need for agricultural education programs was questioned. Supervisors found it necessary to survey the communities to determine the agricultural occupational opportunities in order to justify the need and support for programs. While farming was of primary interest, the agriculture profession also needed trained workers in the pulpwood and lumber industries. The 1921 Federal Board believed that agricultural education survived these troubles because the instruction soundly evolved around supervised practical work usually in the form of home projects.

All-day programs served the traditional high school student. The student received a minimum of 90 minutes of agricultural instruction and 90 minutes of supervised agricultural practice per day. Schools offered two, three, or four year courses for 36 weeks in the year and half the student's time was devoted to nonvocational high school subjects. The curriculum changed from informational academic courses to vocational. Subject matter was selected based on its importance to the community and was organized according to a schedule one would follow if in a farming enterprise (Stimson & Lanthrop, 1942). Vocational agriculture was recognized as part of the high school course. Thus, students received both agricultural certificates and high school diplomas.

The short unit course school served students pursuing the usual public school courses. The students completed short unit courses which included 90 minutes of technical agriculture per week. They also completed not less than six months of directed or supervised agriculture practice.

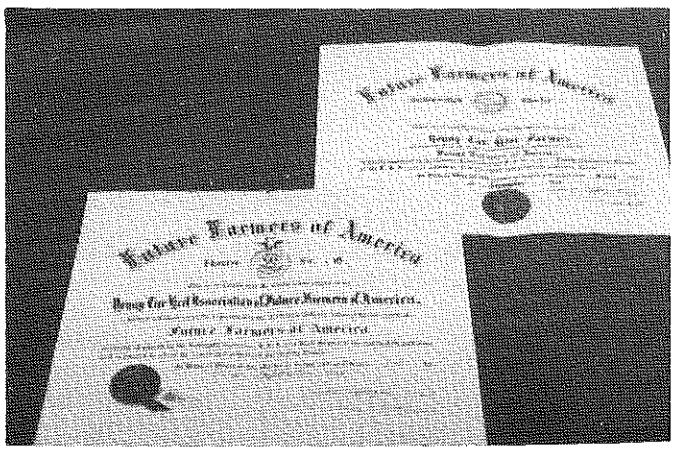
The part-time instruction was offered to pupils employed on the home farm who wished to return to school. The student completed at least six weeks of directed or supervised practice in agriculture. Students also completed short unit courses in technical agriculture as well as courses to improve their civic and vocational intelligence. Delivery of part-time and short unit courses varied from state to state. When offered by the agriculture colleges, the courses were viewed as "less than college grade" and believed by some to have established a foundation for the two year or technical institutes.

Evening schools were for students over 16 years of age who worked on the farm and were returning for short units of agriculture instruction to supplement their daily employment or for advancement in that work. These students were also required to do six months of directed or supervised agriculture practice. When a student returned for a second unit of instruction, it was concluded that the teacher possessed technical knowledge and skill as well as experience in productive farming. The caliber of the "adult educator" was established.

The late Professor Harry S. Sanders was a Manassas, Virginia agriculture teacher, Virginia agricultural supervisor, teacher-trainer at Virginia Agricultural and Mechanics College and Polytechnic Institute, and co-founder of the FFA. On July 13, 1983 Professor Sanders stated: "(As teachers) we used lecture and recitation methods of teaching but use of the laboratory, supervised practice, the home project, and farm survey were the most important." Who was the first vocational agricultural education teacher hired under the Smith-Hughes Act? Stimson and Lanthrop reported that Virginians believed the first teacher hired was Fred Kirby. Dr. Rufus Beamer studied agriculture at Hillsville, Virginia in 1927. According to Dr. Beamer, "My ag teacher was Fred Kirby, the first teacher hired under the Smith-Hughes Act in Virginia. He may have been the first in the country" (personal communication, July 13, 1983).

Teacher-Trainers and Supervisors

The number of agriculture teacher-training institutions grew from 40 in 1918 to 61 in 1921. From 1917 through 1921, $651,792.28 was spent on teacher-training with the Federal Government contributing slightly less than half the total. Three females and 275 males conducted agriculture "teacher-training" courses in 1921. The curriculum usually included teaching methods classes, chemistry, agricultural science, shop work, and practice teaching. Robert A. Wall, a student at Blacksburg, (VA) High School from 1921-1925, recalled: "The ag teacher visited me many times at home to help with my projects. I believe teachers were better trained in those days because they could often do veterinary work as well as teach about crops and animals" (personal communication, July 13 and 15, 1983).



Youth organizations like the Young Tar Heel Farmers, were part of vocational agriculture before the FFA was established in 1928. (Photo compliments of Barbara Malpiedi.)

Supervisors and teacher-educators shared inservice conferences and supervisory tasks. It was very important to accurately report these supervisory activities. Smith-Hughes travel funds could not be used by teacher-trainers unless they were supervising. From 1917-1921, the same person was often a teacher-trainer and a supervisor which created travel and salary reimbursement problems.

The supervisors were primarily responsible for assuring program quality and compliance. Professor Sanders indicated that "good teachers were often worried by my visits. I explained that I was just visiting to see what good things they were doing so I could share the ideas with those who needed the help." He also indicated that he helped teachers with their reports and checked on the supervised farm practice program.

Agricultural Youth Organizations

Vocational education was to fit individuals for occupations. However, many agricultural education leaders realized that progress in agriculture and successful employment required more from an individual than simply occupational skills. Dr. A.W. Tenney (1977) indicated that several states were progressing toward organizing agriculture clubs for boys as early as 1915. The Agricola Club of Michigan used the motto: "Learn By Doing"; New York had the Endicott Young Farmers Club in 1920; Maine, North Carolina, Illinois, New Jersey, Delaware, Georgia, Nebraska as well as others reported club activities prior to 1926. Livestock judging contests were held in Virginia and Alabama in 1919 and in North Carolina, Nebraska, and New Mexico in 1920 (Tenney, 1977, p. 12). C.H. Lane arranged for vocational agriculture students' participation in national judging contests in conjunction with the American Royal in Kansas City, Missouri. The National Congress of Vocational Agriculture Students of 1926 included judging contests and business tours.

Agricultural Education consultants, Charles Keels, K.C. Beavers, and Doug Powell select materials for the State FFA/Ag. Ed. Historical Center being built in North Carolina at the R.J. Peeler FFA Camp. (Photo compliments of Barbara Malpiedi.)

Virginia's 1926 organization of the Future Farmers of Virginia (FFV) served as a model for a national organization of vocational agricultural education students. FFV founders Walter Newman, Edward Magill, Harry Sanders, and Henry C. Groseclose presented the profession with a sound reasoning for the organization, an outstanding constitution and ritual, and the name "Future Farmer." In 1927, the Southern Region Conference of supervisors and teacher-trainers adopted a formal resolution to establish state agriculture youth organizations.

This marked the end of a decade since the passage of the National Vocational Education Act of 1917 but not the end of new developments for agricultural education. One year later, the Southern Region proposed an organization of the Future Farmers of Dixie. The plan included grades of membership and usage of the owl, plow, and the rising sun for the insignia. The Future Farmers of Dixie failed due to support for strong national organizational efforts. The North Central Region in 1927 encouraged the Federal Board for Vocational Education to move on adoption of a national organization of the Future Farmers and suggested purposes for the organization . . . more intelligent choice of agricultural occupations, achievement in agriculture, nurturing a country life, thrift, cooperation, recreation, scholarship, improving the leadership ability of rural boys (Tenney, 1977, p. 20). On November 20, 1928 the first national convention of the Future Farmers of America was held at the Baltimore Hotel in Kansas City, Missouri.

A Final Thought

In one decade, a national system of vocational agricultural education was established. A major financial commitment by the Federal Government, matched by State Governments and local communities, set a precedent for funding public secondary education. A network of educators was mobilized and curriculum was modified to meet local needs. Efforts to establish an intracurricular youth organization were almost solidified. Yes, the Smith-Hughes Act changed agricultural education in 1917. Yet, how many of the concerns and how much of the excitement is true today?

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THEME

Vocational Education for the Public Schools: The Laying of the Foundation

By Ray Herren

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Federally funded vocational education at the high school level began with the passage of the Smith-Hughes Act in 1917. Prior to that time, education was mostly concerned with teaching the classics. Although agriculture was being taught in high school at a few places scattered across the country, the Act represented the first time the program was federally funded and administered in schools across the nation. Since before the turn of the century, there had been a recognized need for vocational education at the secondary level. The Industrial Revolution ushered in the need for a new type of training that differed from the traditional training of the apprentice. Both industry and education were forced to deal with the tremendous influx of immigrants who arrived around the turn of the century. To merge into the American society, these people both needed to be employed and to be educated. It was generally agreed that some type of program was needed. However, there was considerable disagreement as to what form the program was to take.

Three groups took the lead in the attempt to pass legislation to obtain federal funding for secondary vocational education: industry, labor, and agriculture. Although these groups agreed that the program was needed, each had its own idea of the shape the program was to take (Venn, 1971). From the divergent concepts of these groups and their compromises, the final form of our founding legislation developed.

Industry

As a result of the depression of the 1890's, industry leaders formed the National Association of Manufacturers (NAM). The leaders recognized that to survive they had to expand into the world market. In his address to the NAM in 1898, NAM President Search emphasized the advantages held by the European competition, pointing out that Germany had become the most dynamic trading force in the world through its system of vocational and industrial schools. England, along with other countries, was following Germany's example. To be competitive in the world arena, Search felt that America would have to improve its workmanship through formal technical training. He agreed that classical studies were important, but added:

> It is unfair to great material interests of the land to leave out of account the obvious demands of industry and commerce . . . considerable sums should be diverted from the main educational channels to be put into commercial and technical schools (Wirth, 1972, p. 25).

In 1905, NAM organized the Committee on Industrial Education, which expressed the opinion that the schools with their "impractical and boring programs" failed to meet the needs of students. The committee felt that the establishment of technical training was the most important issue facing the American people at the time (NAM, 1905).

Committee chairman Anthony Ittner was impressed with the German system of training. He said, "In the world race for world commercial supremacy, we must copy and improve on the German method of education" (NAM, 1905). The committee also saw this system as a means to control the unions, noting that the German system was free of "union trouble." Professor H.H. Belfield of Chicago argued that if the large manufacturing establishments maintained their own schools, they would rid themselves of strikes. He said, "When they shall educate their own workmen, these workmen will be loyal to the company rather than to an outside organization" Wirth, 1972). These positions, understandably, agitated the American Federation of Labor which had developed its own theories of vocational education.

Labor

The American Federation of Labor (AFL) had grown to over two million members by the turn of the century (Lor-

Legislation subsequent to the Smith-Hughes Act expanded experience opportunities for students. Tree planting by a Forestry/Forest Products student of the Association of Oregon Forestry Clubs (AOFC) at the State Forestry Contract Project is but on example.

wing, 1933). This tremendous surge in strength alarmed the NAM into taking action to try and curb the power of the union. The NAM stand on vocational education was one of the efforts in that direction. These positions prompted the AFL into action on proposed legislation concerning vocational education. In 1908, AFL leader Samuel Gompers appointed a commission headed by mineworker's leader, John Mitchel, to investigate approaches to industrial education in the U.S. and abroad. In a resolution passed at the 1908 convention of the AFL, the committee concluded that there were two groups who had opposing views that were advocating industrial education in the U.S. One group, they reported, was seeking to advance vocational education as a means of training students in non-union sympathies. They saw the "other group" as being comprised of "great educators" and "enlightened representatives of organized labor" who supported vocational education as "a common right open to all children on equal terms to be provided by general taxation and kept under control of the whole people" (Wirth, 1972, p. 54). In direct opposition to the manufacturers who wanted vocational education administered by industry, labor maintained that the program should be conducted through the public schools. The official position of the AFL was as follows:

> We favor the establishment of schools in connection with the public school system, at which pupils between the ages of 14 and 16 may be taught the principles of the trades, not necessarily in separate buildings but in separate schools adapted to this particular education and by competent and trained teachers . . .
>
> Any technical education of the worker in trade and industry, being a public necessity, it should not be a private, but a public function, conducted by the public and the expense involved at public cost (AFL, 1919, p. 210).

Agriculture

Agricultural groups had been active longer than either the AFL or NAM in support of vocational education. Farm groups such as the National Grange were organized for social and educational purposes. As far back as 1874, the Grange had expressed interest in the teaching of "practical agriculture, domestic science, and all the arts that adorn the home" (Cremin, 1961, p. 42). In 1876, a committee was organized to report each year on educational matters and to direct the attention of the state Granges to these matters.

Agricultural publications such as **Wallace's Farmer** and **Hoard's Dairyman** began to editorialize about the need for vocational education in agriculture. **Wallace's** wrote in 1908, — "It is hard for many middle aged farmers to get a clear idea of what is meant by protein, carbohydrate, nitrogen-free extract, etc. Now, these terms are no harder than many which the pupils learn and which are of no earthly use to them in their everyday lives." **Hoard's** contended that since the future of farming lay with the educating of youngsters, teachers should be trained in agriculture (Cremen, 1961, p. 44 & 45). In 1908, President Theodore Rooselvelt's "Commission on Country Life" concluded, "Everywhere there is a demand that education have relation to living, that the schools should express the daily life, and that in rural districts they should educate by means of agricultural and country subjects."

In 1910, groups such as the Farmer's Union and the Association of American Agricultural Colleges and Experimental Stations joined the Grange in an intensified effort to pass legislation to fund vocational legislation. There was, however, contention among the agriculturalists as to what form the education was to take. One group wanted the thrust to be through Extension offices located in each county. This structure was to provide the link for disseminating information from the universities to the local farmers. Another group insisted that the education and dissemination be conducted through the public high schools. Without a unified front, the groups failed to obtain passage of the legislation.

The Compromises

In 1907, a group of industrialists, educators, labor leaders, and social leaders formed an organization known as the National Society for the Promotion of Industrial Education (NSPIE). The NSPIE leaders recognized that the groups advocating vocational education had "no substantial agreement" as to the practical form which the new education should take. Their purpose was to "study the range of possibilities, seek areas of agreement on concrete proposals, to act as a clearing house of information, and to educate the public" (Cremin, 1961, p. 80).

By 1910, the Society had succeeded in bringing the forces together. Although differences still existed, compromises and trade-offs were accomplished through the guidance of Charles Prosser. For example, when it became clear that legislation could not be passed that would provide for both industrial and agricultural training in the high schools and the establishment of an agricultural extension service, an agreement was reached that the group would support the Smith-Lever bill of 1914 which sponsored agricultural extension. In return, the bill's sponsor, Senator Hoke Smith of Georgia, promised to introduce a resolution to authorize President Woodrow Wilson to appoint a committee to examine the need for federal support to aid vocational education. This committee, called the Commission on National Aid to Vocational Education, was instrumental in working out compromises that led to the adoption of the Smith-Hughes Act. (Nystrom, 1973, p. 14). Manufacturing groups compromised in that the training was to take place in the public school system. Labor groups compromised in that they accepted the provision in the Act that allowed separate boards of education to govern vocational education. In return, labor was guaranteed representation on that board.

The force that provided the final push for passage of the bill was the war in Europe. In 1916, as the United States was on the brink of entering the war, the Senate sponsor of the Smith-Hughes Act (Hoke Smith), said in support of the bill, "We well might present the fact that even in the case of war, more men and women would be required at home to prepare the instruments of war and prepare the food and clothing for the soldier than those who would be required to be at the front. They should be prepared for their duties in war and peace" (Congressional Records, 1916). In a report to the House in favor of the bill, Representative Dudley Hughes of Georgia stated, "The American people

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have hardly begun the work of providing for the practical education of these millions of wage workers. In this whole country, there are fewer trade schools than are to be found in the little German kingdom of Bavaria with a population not much greater than that of New York City" (House Report, 1916). The World War I fervor provided just the momentum that was needed to pass the bill. The long sought dream of a nationwide system of vocational education in the public school system was now a reality.

The legislation was a long time in coming, but when the groups finally unified through compromise, a sound bill was passed. Our founding legislation, the Smith-Hughes Act of 1917, provided an enduring foundation for high school vocational programs that has lasted for 70 years. We owe a lot to those who worked through controversy and compromise to develop a system that has benefited the millions who have been educated through the bill's provisions.

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THEME

Philosophy of The Smith-Hughes Act — Then and Now

Background

The Smith-Hughes Act was six years old when I enrolled in vocational agriculture. In this small, rural high school the boys were in agriculture and the girls were in home economics, required electives. The agriculture curriculum was a 4-year program built around agricultural subject matter with a full year devoted to each of the following areas: field crops, animal husbandry, horticulture, and farm management. We had state approved textbooks, but much use was made of the large supply of bulletins from the state agriculture college and the USDA.

Shopwork, with heavy emphasis on practical farm repair jobs, was an important part of each year. Needed bookcases or kitchen cabinets were built, but "fancy woodwork" was discouraged. A hand-turned forge was the key to metal work for repairs, sharpening plows, or making needed metal parts.

A supervised farming program, including crops and livestock as well as home improvement projects, was required of each student. The scope of the farming program was usually small, but ownership, work, and management were emphasized. The teacher visited regularly to see if improved practices were being done and records were up-to-date. He also helped get these things done by bringing along equipment from the department if needed, such as the farm level for laying out terrace lines. A demonstration year-round garden as well as fertilizer for crops were seen on the one acre laboratory area at school. Neat signs

By C. Cayce Scarborough

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helped tell the story of improved farm practices. Much emphasis was on up-to-date farm practices.

Although all of us enrolled were supposed to be farmers in the future, we had no Future Farmers of America. The FFA had not been invented.

Night classes for farmers rounded out the local programs. The agriculture teacher was the only person on the job 12 months, so keeping the school grounds was often his job. I had two teachers during my four years (1924-28), one from Mississippi State University, the other from Auburn University. They were most influential in helping me get started on my life's work. I am indebted and grateful to them.

I give you this background so that you will know, as they say, "where I come from" in discussing the philosophy underlying the Smith-Hughes Act.

Underlying Philosophy

Space permits looking at only two ways of arriving at the philosophy at work in a program or organization, namely (1) The Official Position and (2) What's Actually Going On.

First, the stated purpose, objective, goals, or philosophy may be written as part of the description of the program or organization. This may be the source of the "Official Position", although individuals sometime shape the program. In this case, we have The Smith-Hughes Act and its background. What was being taught in agriculture before? Why did the Smith-Hughes Act come into existence? What were the conditions that brought about and made possible the passage of such national legislation? Senator Hoke Smith (GA) and Congressman Dudley Hughes (GA) (Hooray for Georgia!) and their colleagues must have thought that the legislation would be good for the country. The answers to these and similar questions would give us the philosophy underlying the Act. Not having these we can study the Act itself as well as the publications dealing with the implementation, such as **Policy Bulletin Number 1,** a most influential document. Beginning as a policy bulletin, it became a list of Rules and Regulations. In fact, these words appeared on the cover of the revised editions of the bulletin.

Looking at these publications, the conclusion must be reached that the guiding purpose of any program of vocational agriculture under the Smith-Hughes Act was clearly **Establishment in Farming.** This was the "Official Position" all through the early years and in later years as well.

How About Locally?

What was happening out in the field was a different story; many reasons making good sense to the local teacher. This leads to the **second** way of arriving at the philosophy underlying a program or organization. To many people, **what is actually happening** in a program or organization on a day-to-day basis really reveals the philosophy rather than some state position. At any rate, it seems clear that establishment in farming was **not** the key to local programs. Many reasons, one of which was the fact that opportunities for establishment were very limited or non-existent in the community. In fact many departments would never have been established had this been the major purpose, including where I was enrolled which was a community of small landowners. However, there existed many needs which were set by these departments, a major one being improvement of farming and farm life and helping the boys enrolled begin to find their own way in their life careers. The key to the latter was "learning to do by doing." These boys saw a wider world and caught a new vision for themselves.

So, in the early years many dedicated agriculture teachers (they were called Smith-Hughes men in some sections) had major and positive impact on the local community where they worked. Being on the job year-round and visiting in the homes of those enrolled, they became leading citizens with respect and support within the community. Many spent their life in the same community where they went as a young agricultural education graduate just out of the agriculture college. The underlying and guiding philosophy of most of these early teachers was improving farming and farm life in the community and helping the boys enrolled learn and practice the best that was known in agriculture while also developing himself personally while learning to do by doing.

What About Now?

If I compared "now to then," I'd sound like the old man that I am talking about "the good ole days!" So, I will mention some of the things that may have caused changes in the local situation, "forcing" a change in philosophy whether desirable or not. A related question is whether changes made in the programs resulted in more valuable programs for the people enrolled and the communities. For example, a question for discussion in a workshop on the subject might be, "Did the original ideas for vocational agriculture under The Smith-Hughes Act fit the '20s better than the '80s?" There could be some strong arguments for "Yes", such as the small, rural high school of the early years **vs.** the large consolidated, possibly urbanized high school of today. Certainly, it would be difficult to make a case for establishment in farming as a guiding purpose for many programs today.

Looking back through the years, it seems obvious that establishment in farming as the guiding purpose for programs in vocational agriculture was never realistic in theory nor practice. The same can be said of the modern version of enrolling students in occupational categories. That is, the assumption that all enrolled in this category are headed for a career in that category. Many good reasons — a major one being that it is not good vocational guidance to have a 14-year old commit himself/herself to a career at the age of 14. Too young, too lacking in career skills and understanding of self and the world of work. In vocational agriculture, we insist on knowing and using the latest research on feeding livestock or fertilizing crops, but we ignore research done in career choice and decision-making. There is much research and theory on developing career patterns that would be helpful in working with young people enrolled in any vocational program.

Another questionable practice developed has a bearing on this problem. That is, a large number of studies were done dealing with the placement of students. Emphasis was given to the percentage of the graduates of these programs who were in "occupations related to their training." While this might be a major evaluation of a specific course such

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Cayce Scarborough, shown in the far right of the foreground, listens attentively as Leacy Newell, the home economics teacher, directs the C.R. Lee's vocational agriculture class as part of a teacher exchange program in 1927. (Photo courtesy of Cayce Scarborough.)

Philosophy of The Smith-Hughes Act — Then and Now

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as auto mechanics or welding, establishment in farming is quite a different matter. (Even the more specific courses might well be taken for purposes other than a life's work, such as learning to service your own car for pleasure and economic reasons.)

These items are mentioned to illustrate a possible flaw through the years of adopting an "official position" that was not realistic in theory or practice. Using the ad of a national automobile as a guide, we might ask the question, "Have you tried getting established in farming lately?" This is not a new condition. Many years ago, there was some controversy generated about an article in THE AGRICULTURAL EDUCATION MAGAZINE based on a follow-up study that indicated that the more years a boy spent in vocational agriculture, the less likely that he would farm!

The extreme importance of supervised practice as the key to learning to do by doing was lost along the way. In many programs, this was no longer a requirement in the continuing increase in enrollments. One extreme example saw a department grow from one teacher and about 40 students to more than 200 with two teachers with no increase in facilities and equipment and no requirements for supervised practice.

In our efforts to broaden our programs and update them too, we lost the value of supervised practice. Remember our slogan, "Agriculture is more than farming. In spite of some outstanding Agriculture Co-op programs in Kentucky, Ohio, Virginia, and elsewhere, we never managed to make the Feed & Seed Store the learning -to-do station that it could and should have been. Too many of the efforts in this area at best were working jobs and no relation to classwork and career plans. Therefore, I suggest that some or our efforts to modernize vocational agriculture were not effective because we were unable to develop challenging supervised practice programs related to classwork and geared to the needs of the individual student.

The final area of influence to examine is that of curriculum materials and development. This has been a major area of change used by leaders in most states. Some states spent much time, effort, and money to help teachers update or change their curriculum. Oklahoma is an outstanding example of this, especially including many teachers in the process. Evidence indicates that these efforts made for more effective local programs.

Another development impacting on curriculum was the development nationally of the Occupational Categories, with the reporting of those enrolled in these categories as headed for careers in that category. This was a questionable jump from what started as subject matter areas. Some states struggled with 12 or 15 of these categories trying to furnish teaching materials for each. Teachers were confused and so were students, some giving up and going back to the old Agriculture I, II, etc. Again, this was an effort doomed to failure because the implementation was so difficult as well as of questionable value as an approach to curriculum. The extreme job analysis adopted by some had some similar difficulties for the busy teacher. "Majoring in the minors" is the way one teacher put these efforts.

Conclusion

In trying to make a summary statement after taking a philosophic look at vocational agriculture as developed under The Smith-Hughes Act and further legislation, I came to this conclusion. The people-oriented (looking at the individual enrolled) programs in vocational agriculture through learning by doing through supervised practice have been good for this country and invaluable to the many (including me!) who have found their way in life as a result of being a vocational agriculture student. Thanks to the Smith-Hughes Teachers!

BOOK REVIEW

PRINCIPLES OF DAIRY SCIENCE, by G.H. Schmidt and L.D. Van Vleck, San Francisco, California: W.H. Freeman and Company, 1974, 558 pp., $23.75.

PRINCIPLES OF DAIRY SCIENCE is a comprehensive book having twenty-eight chapters organized in six parts as follows: Introduction; Milk Secretion and Harvest; Dairy Cattle Breeding and Selection; Feeding Dairy Cattle; Dairy Cattle Reproduction; and Dairy Cattle Management. This book is compiled systematically from the role of the dairy industry, to the mammary gland and physiology of milk secretion, to genetics, selection, economics, principles of dairy nutrition, dairy catle reproduction, A.I., herd records, housing, to milk marketing.

As stated in the preface of this book, "The authors' approach in teaching has been to emphasize basic principles of dairy production and consequently the book reflects this emphasis." With the personal experiences of the instructor and the basic principles changed to meet local conditions and/or unique situations, teaching and learning dairy science can be made easier. This book contains 202 illustrations and 112 tables, (all of which are black and white) many of which can be used to support instruction. The book is easy to read and well organized.

The undergraduate student majoring in dairy science will find PRINCIPLES OF DAIRY SCIENCE an appropriate textbook and a valuable reference. Also, vocational agriculture instructors, commercial dairy farmers, any advanced vocational agriculture dairy student, can use this book as a source for dairy information.

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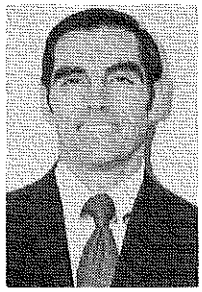
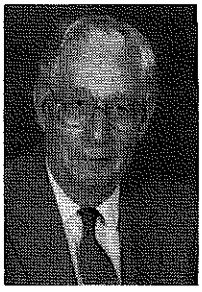
THEME

Teacher Education in Agriculture Provisions of the Smith-Hughes Legislation





By James P. Key and Robert R. Price

(Dr. Key is a Professor and Dr. Price is Professor and Head Emeritus of Agricultural Education at Oklahoma State University, Stillwater, Oklahoma 74078.)

The Smith-Hughes Act of 1917 (Public Law 347, 64th Congress) is most commonly remembered for establishing vocational agriculture (along with trade and industrial education and home economics education) at the high school level. In addition, it also was very instrumental in guiding the development of teacher education in agriculture (as well as Trade and Industrial and Home Economics Education). In most states this teacher education was established in the land grant institutions of that state. Until the passage of the Act, most teacher training was done in the normal schools, which eventually developed into teachers' colleges.

Development of Teacher Training

According to Roberts (1965), in colonial times teachers were considered adequately prepared to teach if they had completed the work of the school in which they were to teach. However, in the late 1700s, special schools were advocated for the training of teachers. This led to the establishment of normal schools about the mid 1800s, which included a one year study of the common branches, methods of teaching, classroom management, and work with children in the model schools. In the later 1800s the normal schools evolved into teachers' colleges, which also received some competition from education courses offered at universities, as they established departments and colleges of education.

Teacher Education in Agriculture

Different beginnings of teacher education in agriculture are cited, including the Indians who taught corn planting to the settlers, Booker T. Washington's work at Tuskegee Institute, the Land-Grant Acts, and other historical events (Berkey, 1981). However, the primary influence establishing this fledgling undertaking was the Smith-Hughes Act of 1917. From about 1900, the movement to introduce the teaching of agriculture into institutions other than colleges of agriculture created a demand for more teachers trained in agriculture than the colleges and normal schools could supply. The Smith-Hughes Act not only established the teaching of vocational agriculture in the secondary education institutions in the U.S., but it required the training of teachers of agriculture as well. Most states opted to provide this training in their land grant institutions and had established teacher education programs by 1919.

Provisions of the Smith Hughes Act

When we center our attention upon Section 12 of the Act, we can readily see that those who gave leadership to its formulation were quite cognizant of the need for undergirding, which could only be assured through a strong, effective segment of effort directed toward teacher education, or in the actual language of the Act, ". . . the training of teachers, supervisors, or directors of agricultural subjects . . ." As we look back upon the subsequent development of vocational agriculture, we see the importance of certain provisions spelled out in the Act, particularly in the area of the training of teachers:

1. ". . . the State Board in each state shall provide in its plan for such training . . ."
2. ". . . the same training shall be carried out under the supervision of the State Board;"
3. ". . . such training shall be given in classes under public supervision or control;"
4. ". . . such training shall be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers, . . ."
5. ". . . the State Board, with the approval of the Federal Board, shall establish minimum requirements for such experience or contact . . ."
6. ". . . not more than sixty percentum nor less than twenty percentum of the monies appropriated under this Act for the training of teachers of vocational subjects to any State for any one year shall be expended for any one of the following purposes: For the preparation of teachers, supervisors, or directors of agricultural subjects, . . ."

How fortunate the enabling legislation clearly mandated major state involvement in decision making, particularly

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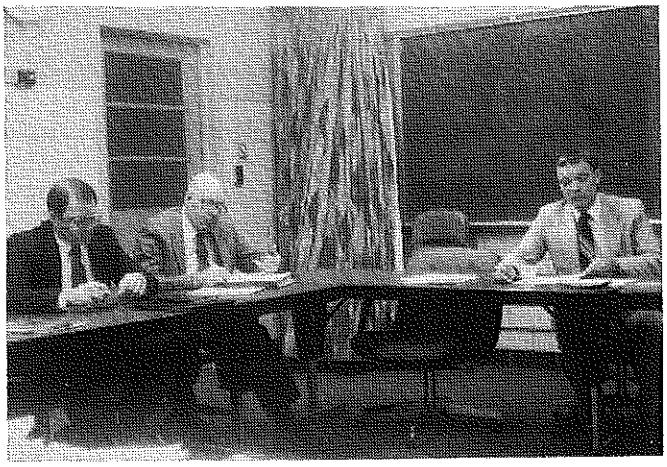
Teacher Education in Agriculture Provisions of the Smith-Hughes Legislation

(Continued from page 19)

with regard to the formulation of plans. Yet, it also wisely provided guidelines which constituted an almost secure network for program operation. As an example, institutions desiring to train teachers of agriculture found that they must have adequate resources of livestock, growing crops, and agricultural equipment. Perhaps, the provision that "would-be teachers" have agricultural experience was as important, if not more so than any of the other provisions. The provision regarding expenditure of ". . . not less than twenty percentum . . ." forced recognition of the importance of maintaining strong teacher education programs and resulted in an overall healthy, yet sometimes highly competitive relationship between teacher educators and supervisors. The provision that plans for teacher education be written into the state plan created the need for cooperation among agricultural teachers, supervisors, and teacher educators in charting the course of the total vocational agriculture program including the FFA, adult program, and others.

Section 9 of the Act also specified that for each dollar of Federal money expended for teacher education, each state or local community, or both must provide a like amount from their own funds. This matching of funds from state and local sources ensured state and local involvement in the programs. Section 5 specified that after 1920, no states would receive any appropriations unless they used the minimum amount for the training of teachers. This gave the states approximately three years to get their teacher education programs in place to accompany, and hopefully fortify, their vocational agriculture programs.



Smith-Hughes legislation provided funds to support both state supervisors and teacher educators. The Ohio Leadership Team of supervisors and teacher educators meets monthly to plan instructional programs.

Impact of the Smith-Hughes Act

By 1921, all states, plus Hawaii and Puerto Rico, had initiated teacher education programs in agriculture, primarily in the land grant institutions (Berkey, 1981). This progress in teacher education in agriculture was primarily due to the funds and provisions of the Smith-Hughes Act. By 1980, there were 79 agricultural teacher education programs in 48 states and Puerto Rico.

The framers of the Smith-Hughes Act of 1917 were very insightful and visionary. Their creation stood the test of time. Its main tenets were not greatly modified until the Vocational Education Act of 1963, which broadened the vocational concept to lessen the emphasis on specific vocational areas. Subsequent federal legislation has reflected more of the multi-disciplinary approach, which has resulted in the de-emphasis of agricultural teacher education as a separate entity in some states. Some programs have blended into vocational or occupational education departments and lost their identity except as an emphasis area. However, more recently in some other states agricultural teacher education has re-emphasized its uniqueness, as evidenced by the moves of several agricultural education departments in land grant institutions from colleges of education to colleges of agriculture.

Current thrusts, such as the back-to-the-basics movement fueled by reports like "A Nation At Risk," continue to attack vocational agriculture and teacher education in agriculture. Ever increasing certification requirements for agriculture teachers seem to make the job of educating teachers of agriculture more difficult. Increasing numbers of required general education and psychology courses make it ever more difficult to maintain the solid core of technical agriculture courses required to produce competent teachers of agriculture. Increased college entrance requirements, especially in the area of foreign languages, make it more difficult to recruit prospective teachers of agriculture into the teacher education programs. Accountability and evaluation programs scrutinize the teacher education programs and their products more and more.

All of these problems might seem overwhelming were it not for the solid foundation established for the programs of teacher education in agriculture by the Smith-Hughes Act from the very beginning. It established the base of local, state, and federal cooperation; inclusion of teacher education in a thorough, written state plan; cooperation among teachers, supervisors and teacher educators; and shared funding by the federal, state, and institution that has held the program together under all attacks and all kinds of change. Were it not for this foundation, teacher education in agriculture might face an uncertain future. With this foundation it can be counted on to meet and overcome all obstacles and improve its program in the process.

References

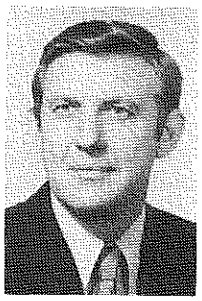
Berkey, A.L. (Ed.), Teacher education in agriculture. Danville, IL: The Interstate Printers and Publishers, Inc., 1981.

Robert, R.W., Vocational and practical arts education, 2nd Ed. New York: Harper and Row, Publishers, 1965.

1987-88 Report . . .

Assistantships and Fellowships in Agricultural Education

The 1987-88 survey of institutions offering assistantships and fellowships in agricultural education is provided by the Publications Committee of the American Association of Teacher Educators in Agriculture. This survey is published to assist those in the profession who are seeking information about graduate studies. Twenty-six institutions responded to a request for details concerning assistantships and fellowships.



By Richard F. Welton

(Dr. Welton is a Professor and Coordinator of Pre-Service Agricultural Education for the Department of Adult and Occupational Education at Kansas State University, Manhattan, Kansas 66506.)

Key to Understanding

The information is provided in the following order: nature of assistantships (number available); number of months available during the year; beginning month of employment; amount of work expected; monthly remuneration and other considerations, such as remission of fees; whether aid is for master's, advanced graduate program or doctoral students; source of funds; the 1987 deadline for application; and the person to be contacted. Slight variations in this pattern are due to the nature of the data provided by reporting institutions.

University of Arizona

Research Assistantships (2); 9 or 12 months; June or August; one-half time, 20 hours/week; $660 per month; out-of-state tuition waived; master's; department budget; March 1 or 6 months prior to enrollment; Floyd G. McCormick, Department of Agricultural Education, The University of Arizona, Tucson, Arizona 85721, telephone (602) 621-1523.

University of Arkansas

Research Assistantship (1); July 1; one-half time, 20 hours/week; $500-650 per month; full tuition and fees provided; master's or doctoral; May 1; Dr. Nolan Arthur, Department Head, Department of Agricultural & Extension Education, Agriculture Building Room 301-B, University of Arkansas, Fayetteville, Arkansas 72701, telephone (501) 575-2035.

Teaching Assistantship (1); September 1, one-half time, 20 hours/week; $500-650 per month; full tuition and fees provided; master's or doctoral; May 1; contact same as above.'

Arkansas State University

Graduate Assistantships (2); 9 months plus 2 summer terms; approximately August 15; $4,250 for 9 months plus $550 for each summer term; master's; May 1; Dr. J.A. Hayles, P.O. Box 1080, State University, Arkansas 72467.

Cornell University

Teaching Assistantship (1); June or September; 15 hours/week; $7,000 annually ($292.30 bi-weekly); waiver of tuition and fees; doctoral; state funding; April 15, 1987. Arthur L. Berkey, Roberts Hall, Cornell University, Ithaca, New York 14853; telephone (607) 255-2197.

Research Assistantships (2); 9 or 12 months; June or September 15; 15 hours/week; $5,600 for 9 months, $7,600 for 12 months ($292.30 bi-weekly); waiver of tuition and fees; master's and doctoral; Hatch Act research funds; April 15, 1987; contact same as above.

University of Florida

Research Assistantships (3-5); 9-12 months; August; 14-20 hours/week; out-of-state fees waived; master's; varies depending upon position; April 1; C.E. Beeman, Department of Agricultural and Extension Education, 305 Rolfs Hall, University of Florida, Gainesville, Florida 32611.

Iowa State University

Research Assistantships (3); 9 or 12 months; July or September; one-half time, 20 hours/week; $655 per month; fee reduction; master's or doctoral; Agricultural Experiment Station; March 1; Dr. David L. Williams,

(Continued on page 22)

1987-88 Report . . . Assistantships and Fellowships in Agricultural Education

(Continued from page 21)

Head, Department of Agricultural Education, Iowa State University, Ames, Iowa 50011.

Fellowships (2); 12 months; September; 20 hours/week; $675 per month; full fees paid; master's or doctoral; March 1; USOE for Minorities and Women; contact same as above.

Kansas State University

Teaching Assistantship (1); 9 months; August 26; 16 hours/week; $564 per month; out-of-state fees waived, in-state fees reduced; master's and doctoral; March 15; Ralph Field, Department of Adult and Occupational Education, Kansas State University, Manhattan, Kansas 66506, telephone (913) 532-5535.

Louisiana State University

Teaching and Research Assistantships (3); 9 and 12 months; June, August, and January; 20 hours/week; minimum $450 for M.S. with no teaching experience, $500 for M.S. with teaching experience, and $700 for Ph.D. students; most fees waived; Departmental and Graduate School funds; May 1 for summer, July 1 for fall, December 1 for spring; Gary Moore, Department of Vocational Agricultural Education, Louisiana State University, Baton Rouge, Louisiana 70803, telephone (504) 388-5748.

University of Maryland

Graduate Assistantships for minority students; 9½ months; approximately August 15; 20 hours/week; remission of tuition for 10 credits per semester; $7,350-8,300 per year (1986-87 rates); aid for qualified graduate students (M.S. or Ph.D.); March 15; Dr. Merl E. Miller, Professor & Chairman, Department of Agricultural and Extension Education, University of Maryland, College Park, MD 20742, telephone (301) 454-3738.

Michigan State University

Teaching and Research Graduate Assistantships (4); 9-12 months; ½ time, 20 hrs.; ¼ time, 10 hrs./week; $390-766 per month, master's; $421-900 per month, Ph.D.; out-of-state fees waived. Carroll H. Wamhoff, Chair, Department of Agricultural and Extension Education, 410 Agriculture Hall, Michigan State University, East Lansing, Michigan 48824-1039; telephone (517) 355-6580.

University of Minnesota

Research Assistantships (2-5); 9-12 months; July or September 15; 10-20 hours; $809-1,003 per month (50%); tuition reduced by two times % time appointed; master's or doctoral students; University; April 15; Dr. Edgar Persons, Head, Division of Agricultural Education, 320 Vocational and Technical Education Building, University of Minnesota, 1954 Buford Avenue, St. Paul, Minnesota 55108, telephone (612) 373-1020.

Fellowships in Vocational Education (2); 9 months; September 15; none, but full-time students; $1,500-2,000; master's or doctoral students of outstanding potential; Graduate School; April 15; Director of Graduate Studies, Department of Vocational and Technical Education, 210 Vocational and Technical Education Building, University of Minnesota, 1954 Buford Avenue, St. Paul, Minnesota 55108, telephone (612) 373-7780.

Mississippi State University

Research Assistantships (2); 9 or 12 months; July or August; $350-900; tuition waived; doctoral; March 1; Jasper S. Lee, Department of Agricultural and Extension Education, Post Office Drawer AV, Mississippi State University, Mississippi State, Mississippi 39762, telephone (601) 325-3326.

Teaching Assistantship (1); 9 months; August; $350-900; tuition waived; master's, educational specialist, or doctoral; March 1; contact same as above.

University of Missouri-Columbia

Research Assistantships (2-4); 9-12 months; July and September 1; 20 hours/week; $670 per month; out-of-state fees waived; doctoral; May 1, Bob R. Stewart, Agricultural Education, 435 General Classroom Building, University of Missouri-Columbia, Columbia, Missouri 65211.

Teaching Assistantships (1-2); 9 months; August 20, 20 hours/week; $670 per month; out-of-state fees waived; doctoral; May 1; contact same as above.

Montana State University

Graduate Teaching Assistantships (2), pending funds on a yearly basis; 9 months; September 15; approximately 12 hours/week teaching undergraduate classes; $4,600 per year plus fee waivers; master's; Dr. Max Amberson, Department Head, Department of Agricultural and Industrial Education, College of Agriculture, Montana State University, Bozeman, Montana 59717.

Graduate Research Assistantship (1), pending funds on a yearly basis; 9 months; September 15; approximately 12 hours/week conducting research activities; $4,600 per year plus fee waivers; master's; May 1; contact same as above.

University of Nebraska

Graduate Teaching Assistant/Graduate Research Assistant (1); 9-12 months; July 1; 20 hours/week; $500-700 per month plus remission of tuition; master's candidate; department budget appointment; April 1 or until filled; O.S. Gilbertson, telephone (402) 472-2807.

Project Director/Coordinator (1); 12 months; July 1; 30-40 hours/week; $1,000-1,800 per month; remission of tuition and fees plus fringe benefits package; advanced graduate, doctoral, or post-doctoral students; special project funding; April 1 or until filled; contact same as above.

North Carolina Agricultural and Technical State University

Graduate Assistantships (1-2); 9 months; August; 10 hours/week; $300 per month; University; July 1; Dr. Albert W. Spruill, Dean, Graduate School, or A.P. Bell, Head, Department of Agricultural Education, North Carolina Agricultural and Technical State University, Greensboro, North Carolina 27411, telephone (919) 334-7711.

Graduate Research Assistantships (2); 12 months; August; 20 hours/week; $480 per month; USDA; July 1; A.P.Bell, Head, Department of Agricultural Education, North Carolina Agricultural and Technical State Universi-

ty, Greensboro, North Carolina 27411, telephone (919) 334-7711.

North Dakota State University

Graduate Research Assistant (1); 12 months; July 1; one-half time; $530 per month; master's; Agricultural Experiment Station; February 1; Dr. Don Priebe, Professor and Chairman, Agricultural Education Department, 155 Home Economics Building, North Dakota State University Fargo, North Dakota 58105, telephone (701) 237-7437.

The Ohio State University

Teaching Assistantships (2-3); 12 months; July or later; one-half time; $650-775 per month; in- and out-of-state fees waived; doctoral; February 1; Dr. L.H. Newcomb, Chairman, Department of Agricultural Education, The Ohio State University, Agricultural Administration Building, 2120 Fyffe Road, Columbus, Ohio 43210-1099, telephone (614) 292-6321.

Research Associateships (3-5); 9-12 months; July or later; one-half time; $650-775 per month; master's or doctoral; February 1; contact same as above.

Teaching Associateship (1); 12 months; July or later; one-half time, $650-700 per month; in- and out-of-state fees waived; doctoral; March 1; Dr. Joe Gliem, Department of Agricultural Engineering, Dr. Joe Gliem, 203-C Agricultural Engineering Building, 590 Woody Hayes Drive, Columbus, Ohio 43210, telephone: (614) 292-9359.

Research Associateships (12-15); July 1 or later; one-half time; $735 per month for doctoral, $615 per month for master's; in- and out-of-state fees waived; February 1 (will accept applications year-round); Executive Director, National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210, telephone (614) 486-3655.

The Oklahoma State University

Teaching Assistantships (2); September 1; 20 hours/week; $735 per month; out-of-state fees waived; doctoral; Dr. Robert Terry, Professor and Head, Department of Agricultural Education, 448 Agriculture Hall, Oklahoma State University, Stillwater, Oklahoma 74078, telephone (405) 624-5129.

Teaching Assistantship (1); September 1; 20 hours/week; $735 per month; out-of-state fees waived. Dr. David Thompson, Professor and Head, Department of Agricultural Engineering, 109A Agricultural Hall, Oklahoma State University, Stillwater, Oklahoma 74078.

Research Assistant (1); 12 months; September 1; 20 hours/week; $735 per month; out-of-state fees waived; August 1; contact same as above.

The Pennsylvania State University

Teaching and Research Assistantships (4); 12 months; August 20; 20 hours/week; $3,550 per semester; remission of fees; out-of-state; master's and doctoral; March 1; Dr. Samuel M. Curtis, Head, Department of Agricultural Education and Extension, 102 Armsby Building, University Park, Pennsylvania 16802, telephone (814) 865-1668.

Purdue University

Teaching Assistantships (2); 10 months; August; one-half time; $564 per month; tuition and fee waiver; doctoral or master's; February 1. Dr. James P. Greenan, Chairman, Vocational Education, Purdue University, South Campus Courts F-25, West Lafayette, Indiana 47907; telephone (317) 494-7290.

Research Assistantships (3-5); 10-12 months; August; one-half time; $564 per month; tuition and fee waiver; doctoral or master's; February 1; contact same as above.

Southern Illinois University

Teaching Assistantship (1); 12 months; summer or fall; 20 hours/week; $640-684 per month; tuition waiver; April 1; Dr. James Legacy, Department of Agricultural Education and Mechanization, Southern Illinois University, Carbondale, Illinois 62901.

Teaching Assistantships (4); 9-12 months; fall; 20 hours/week; $640-684-per month; tuition waiver; April 1, contact same as above.

Microcomputer Lab Assistantships (2); 9 months; summer or fall; 20 hours/week; $640-684 per month; tuition waiver; April 1; contact same as above.

Texas A&M University

Assistantships: teaching (3), non-teaching (3), research (2); 9-12 months; generally September 1 or January 15; 20 hours/week; $750 per month for doctoral, $500 per month for master's; out-of-state tuition waived for teaching or research assistantships; public (state) and private; April 1 for September appointment; Dr. Don R. Herring, Graduate Coordinator, Department of Agricultural Education, College of Agriculture, Texas A&M University, College Station, Texas 77843-2116, telephone (409) 845-2951.

Fellowships: doctoral (2), master's (2); 12 months; generally September 1 or January 15; 20 hours/week; $800-1,000 per month for doctoral, $500 per month for master's; public (state) and private; April 1 for September appointment; contact same as above.

Virginia Polytechnic Institute and State University

Instructor (1); 12 months; July 1; 20 hours/week; $900 per month; doctoral with 3 years professional experience — two years teaching agricultural education; University; March 1; Dr. John Crunkilton, Agricultural Education, Room 222 Lane Hall, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. Telephone (703) 961-6836.

Graduate Assistant (1); 9 months; September 16; 20 hours/week; $700-825 per month; master's or advance degree; University; March 1; contact same as above.

University of Wisconsin/Platteville

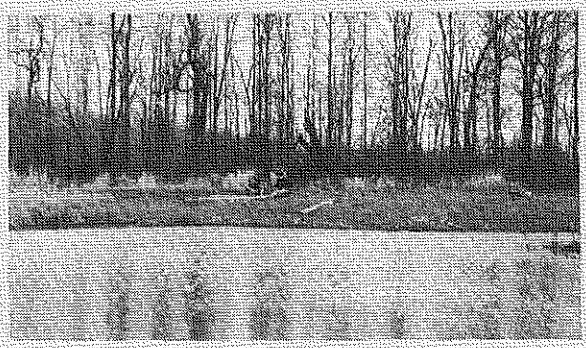
Graduate Assistantships (5); 9 months; September 1; 18-20 hours/week, limited out-of-state tuition waivers; master's only; University of Wisconsin System Grant; March 15; Dr. Ralph Curtis, Director of Graduate Studies, 303 Brigham Hall, UW-Platteville, Platteville, Wisconsin 53818; telephone (608) 342-1262.

University of Wisconsin/River Falls

Graduate Assistantships (1-2); 9 months; September; 15-20 hours/week; $520-550 per month; remission of out-of-state fees; master's, state funding; April 1; Dr. Richard A. Jensen, Chairman, Department of Agricultural Education, University of Wisconsin/River Falls, River Falls, Wisconsin 54022, telephone (715) 425-3555.

Stories in Pictures

Land Laboratory Experiences for Students in Natural Resource Management



Two quarter acre ponds and one quarter acre stream allow students to receive excellent experiences in managing water resources.

Clearing brush is an on-going exercise. The laboratory also allows students to harvest a continuous supply of firewood.

The 35 acre land laboratory provides excellent experiences for students. Over 75% of the juniors and seniors receive job placement experiences and 55% of the graduates seek additional education in natural resources at post-secondary and 4-year institutions.

Various sites and locations in the laboratory require constant maintenance.

Students are taught how to maintain natural water supplies.

(Photos courtesy of Thomas Hackenbracht, Natural Resources Instructor at Maplewood Joint Vocational School in Ravenna, Ohio)